



Madison Section NEWSLETTER

Volume 7, Number 4

Serving IEEE Members of South Central Wisconsin

April 2004

nPoint: An Overview of Nanopositioning

Joint Meeting with UW-Madison Student Branch

- Date/Time:** Thursday, April 15, 2004, 7:15 PM - 9:00 PM (Evening Meeting!)
- Speaker:** John Biondi, CEO, nPoint Inc.
- Location:** 1610 Engineering Hall - parking available in lot 17 next to Engineering (see map online)
- Menu:** there may be pizza, and then again, there may not be pizza...
- RSVP:** by April 12th to Les Schroeder via email (l.schroeder@ieee.org) or call 608.267.4448



Non-member guests are always welcome!

The nanometer, once considered an unachievable limit of manufacturing technology, has now taken center stage in the world's most advanced laboratories where the best of science and engineering are being integrated in the emerging field of nanotechnology. The ability to work at this level of precision has become more important in the areas of semiconductor fabrication, materials science and biotechnology as well. nPoint designs, manufactures, and sells devices for rapid, precise, and repeatable positioning and motion at the nanometer scale. Current products include the PiezoMAX™ series of nanopositioning systems and sensors, the C-300 series controllers and the iC series of closed-loop AFM kits.

Nanopositioning is becoming a critical enabling technology across a variety of industries and is increasingly important in various research and microscopy applications. nPoint, offers a range of nanopositioning products covering all axes of motion and possesses the capability to accomplish custom projects for Original Equipment Manufacturers (OEMs).

Mr. Biondi has over 25 years experience in the areas of general management, business formation and development, marketing and sales management in the scientific instrumentation and software solutions sectors. Mr. Biondi has previous senior management experience in a Global 1000-level instrumentation corporation and has been directly involved with three early stage companies, two that made successful initial public offerings and one, which he helped found, that was acquired. He has consulted for a range of start up ventures and has been instrumental in raising over \$35 million in venture capital. He has a bachelor's degree from the University of Missouri and an MBA from Georgia State University.

The New Midwest Power Market Regulation



- Date/Time:** Thursday, May 27, 2004, 11:45 AM - 1:00 PM
- Speaker:** Don Neumeyer, PE, Electrical Engineer, Public Service Commission of WI
- Location:** Rocky Rococo's Pizza, 7952 Tree Lane (Madison Beltline Hwy. at Mineral Pt. Rd.), 608.829.1444
- Menu:** Pizza buffet, salad and soft drinks (cost \$10.00, free for student members)
- RSVP:** by May 24th to Les Schroeder via email (l.schroeder@ieee.org) or call 608.267.4448

CONTENTS

Meeting Notices	1
"Girl Day" Turns Four	2
New UCE/SPAM Filtering Service	3



IEEE
Networking the World™

IEEE MADISON SECTION NEWSLETTER

Printing and Mailing by: SprintPrint
2790 S. Fish Hatchery Rd.
Madison, WI 53711

Published 9 times per year (Jan. - May & Sep. - Dec.) by the Madison, Wisconsin Section of the Institute of Electrical and Electronic Engineers (IEEE), as a service to its members in south-central Wisconsin.

Mailed at Madison, Wisconsin as 3rd Class, Non-Profit postage. Permit No. 953.

Online at: <http://www.bugsoft.com/ieee/>

For address changes: notify IEEE headquarters, address-change@ieee.org and contact Craig Heilman, cheilman@ieee.org, 608.424.6860

For advertising information: contact John Hicks, jhicks@wisc.edu, 608.233.4875

For editorial comment: contact Craig Heilman, cheilman@ieee.org, 608.424.6860

IEEE MADISON SECTION OFFICERS

Chair: Sandy Rotter, 278.0377
rotter@ieee.org

Vice Chair: Bob Sier, 877.7603
rsier@atcllc.com

Treasurer: John Hicks, 233.4875
jhicks@wisc.edu

Secretary/
E-mail Coord: Les Schroeder, 267.4448
l.schroeder@ieee.org

Member at Large: Tom Yager, 225.3913
tyager@ieee.org

Member at Large: Wayne Lenius, 664.1464
lenius@bigfoot.com

Member at Large: Mitchell Bradt, 664.2008 x128
mbradt@realtimedesign.biz

Newsletter Editor/
Webmaster: Craig Heilman, 424.6860
cheilman@ieee.org

Non-member guests are always welcome!

Don Neumeyer will discuss the role of the regulators with the many new market participants in the new upcoming developments in the Midwest electric power market. This is the third session in this year's meetings focusing on Electric Power—the other two having been the viewpoint from industry and academia.

Some of the topics to be covered include:

- the mix of physics meeting new economics with federal and state rights being delineated,
- the players and their jurisdictions – MISO & PJM, MAIN & MAPP, FERC & NERC, TCOs & GENCOs, LSEs, and PSCs,
- the new power market and how it is designed to work with FTRs, LMP, Day ahead commitment, congestion, central dispatch, and a resource adequacy market,
- the combined electrical view of facilities that might come in the Midwest

Don Neumeyer received his B.S. in Electrical Engineering from the University of Missouri at Rolla. He has over 30 years of experience in the power industry. Don is a planning engineer with the Public Service Commission of Wisconsin. His primary responsibilities include: reviewing proposed transmission and generation projects, and monitoring the new MISO market development. Prior to joining the PSC in 2002, he was a national consultant working with the deregulation processes on the east and west coasts. Other previous positions he has held include being a university plant engineer and a utility planning engineer.

As “Girl Day” Turns Four, Engineers Redouble Efforts

WASHINGTON (25 March 2004) -- A company in Colorado taught eighth-grade girls how to build simple electronic circuits. Employees at a New York City construction firm began serving as engineering mentors to girls in three local schools. Industry engineers conducted one-on-one outreach to 200 girls in a Missouri school district. These and hundreds of other programs were part of the fourth annual Introduce a Girl to Engineering Day program, a centerpiece of National Engineers Week's outreach to encourage underrepresented groups to consider a career in engineering.

Thousands of women engineers -- with support from their male counterparts -- participated in the mentoring effort this year -- dubbed “Girl Day” in engineering circles -- led by 2004 National Engineers Week co-chair, the IEEE / IEEE-USA, with major sponsors Agilent Technologies, Inc., and the Elizabeth and Stephen Bechtel, Jr. Foundation.

On 25 March, Girl Day went global as National Engineers Week participated in a United Nations briefing, “Girls and Technology: New Educational Opportunities.” Dr. Sylvia Wilson-Thomas, representing EWeek and the IEEE, reported on Introduce a Girl to Engineering Day and other Science, Technology, Engineering and Mathematics programs to promote education for girls and career

opportunities for women, as part of the weekly UN Department of Public Information briefing for non-governmental organizations.

National Engineers Week has also invited organizations, educational institutions, and individuals to sign a statement supporting its initiatives, which can be accessed at the National Engineers Week web site at <http://www.eweek.org>:

“We, the undersigned, encourage all nations to seek the talents, viewpoints and intellects of women in engineering and related mathematics and science fields. Encouragement, education and work opportunities for girls and women in these fields are imperative to generate and turn ideas into reality for the health, safety, and welfare of all.”

For years, the engineering community has recognized the need to bring more women into its ranks. Currently, only one out of ten engineers in America is a woman. National Engineers Week launched Introduce a Girl to Engineering Day in 2001 to provide girls and young women with a firsthand experience in the engineering arena. An estimated one million girls have been involved annually in what is considered to be the first outreach program targeting girls ever established by a single profession.

A Pledge Roster of Girl Day events across the country can be viewed at http://www.eweek.org/site/News/Eweek/2004_nationalpledgeroster.shtml. Organizers and engineers are urged to continue listing their activities throughout the year to help make educational and career opportunities and mentoring programs available for girls and prospective women engineers nationwide.

In remarks at the United Nations, Dr. Sylvia Wilson-Thomas says increased recruitment of girls and women into engineering is a global need.

Although Girl Day is officially just one day each year during National Engineers Week -- this year it was Thursday, 26 February -- the event is designed to have a long-lasting impact.

“The heart and soul of Introduce a Girl to Engineering Day are the young women we inspire,” says Joey Duvall, an electrical engineer at Lockheed Martin, IEEE member, and chair of this year’s campaign. “I’ve had a great deal of support from key role models throughout my journey. I never doubted I could become an engineer, and that’s the message I hope to give to my younger, future colleagues.”

Those involved in the program stress that Girl Day is much more than an attempt to diversify the profession and more than simply a numbers game. Besides broadening and increasing the ranks of engineers in America, engineers say the initiative helps in the long range, by opening up the profession -- and, thus, its societal impact -- to serve a larger need. Though the impact of any such an effort is not always easy to measure, few doubt that girls are up to the challenge.



Spring/Summer 2004 Short Courses from Engineering Professional Development

- **DC Power System Design for Telecommunications**
April 7–9, 2004 in Madison, WI
- **Designing Cardiovascular Devices for Medical Device Manufacturers**
May 12–14, 2004 in Madison, WI
- **Introduction to Data Communications**
June 16–18, 2004 in Madison, WI
- **Designing Neurovascular Devices for Medical Device Manufacturers**
June 8–10, 2004 in Madison, WI
- **Understanding and Deploying Wireless LANs**
June 28–30, 2004 in Madison, WI

For further information...

Web: <http://epdweb.engr.wisc.edu> or E-mail: danbeck@engr.wisc.edu
College of Engineering Department of Engineering Professional Development

This year, for example, the National Champion of the 2004 Future City Competition, another educational program of National Engineers Week, was an all-girl team. Students Cara Hartz, Natalie French, and Allison Garda of Riverview Junior/Senior High School in Oakmont, Pennsylvania, bested teams from 33 regions across the country for first place honors at the Future City National Finals in Washington, D.C. in February. More than 1,100 schools and 30,000 students participated in the 12th annual competition.

IEEE-USA is an organizational unit of the IEEE, created in 1973 to advance the public good, while promoting the careers and public-policy interests of the more than 225,000 electrical, electronics, computer and software engineers who are U.S. members of the IEEE. The IEEE is the world's largest technical professional society. For more information, go to <http://www.ieeeusa.org>.

New UCE/SPAM Filtering Service

The IEEE Email Alias Service now includes a new optional feature to help IEEE members manage the amount of unsolicited commercial email (UCE), or spam, that they receive. The service is offered free-of-charge to all active IEEE members with an IEEE email alias. Members who elect to take advantage of this new service will have the option of either tagging or completely blocking suspected unsolicited commercial email. Read the description of this service at <https://uce.ieee.org/uce-filtering-service.html>. Signup at <https://uce.ieee.org>.



Reach over 700 IEEE members in South-Central Wisconsin with information on *your products and services* every month with an ad in this newsletter.

Our members have professional interests in computers, power engineering, signal processing, communications, industry applications and a number of other technical fields.

For more information, contact John Hicks at (608) 233-4875 or jhicks@wisc.edu.

Per issue ad rates:	<u>1 Time</u>	<u>2 Times</u>	<u>5 Times</u>	<u>9 Times</u>
Business Card	\$ 50	\$ 45	\$ 42	\$ 41
2-Business Card	83	76	71	70
1/4 Page	145	135	129	127
1/2 Page	215	203	195	193
Full Page	330	315	306	303

NONPROFIT ORG.
U.S. POSTAGE
PAID
Madison, WI
Permit No. 953

IEEE  *Networking the World™*
2790 S. Fish Hatchery
Madison, WI 53711